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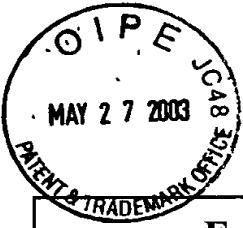
Form PTO-1449 Modified		Docket No. ISIS-4943	Serial No. 09/996,263
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant Phillip Dan Cook, et al.	
U.S. Department of Commerce Patent and Trademark Office		Filing Date November 28, 2001	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
AA	Uesugi et al., "Studies of Nucleosides and Nucleotides-LXXXII. <sup>1)</sup> cyclonucleosides. (39). <sup>2)</sup> [REDACTED] 2449-2453		
AD	[REDACTED] Conformation of Adenine Nucleosides", <i>Tetrahedron Letters</i> , 1979, 42, 4073-4076		
	[REDACTED] fluoroadenylic acid)", <i>Nucleic Acids Research</i> , 1978, 5, 1877-1887		
AD	[REDACTED] Hakim et al., "Synthesis of Nucleosides and Nucleotides. LXVII. Purine Cyclonucleosides-26. A Versatile Method for the Synthesis of Furanic C-Glycosyl Nucleosides. Part I. Synthesis of 2'-Deoxy-β-D-Arabinofuranosylguanine", <i>Tetrahedron</i> , 1975, 31, 1369-1372		
AE	[REDACTED] <i>Res. Comm.</i> , 1970, 47, 1504-1510		
AF	[REDACTED] Beaucage et al., "Deoxyoligonucleotide phosphoramidites - A new class of key intermediates for deoxypolyribonucleotide synthesis", <i>Proc. Natl. Acad. Sci. USA</i> , 1981, 78, 1859-1862		
AG	[REDACTED] Roth et al., "Synthesis and properties of 2'-halogen-2'-arabino derivatives", <i>Nucleic Acid Chemistry</i> , 1986, Part Three, 149-152		
AH	[REDACTED] Fox et al., "Nucleosides. XVII. Synthesis of 2'-Fluorothymidine, 2'-Fluorodeoxyuridine, and other 2'-halogeno-2'-deoxyribonucleosides", <i>J. Am. Chem. Soc.</i> , 1964, 86, 111-112		
AI	[REDACTED] Fox et al., "Nucleosides. XVIII. Synthesis of 2'-Fluorothymidine, 2'-Fluorodeoxyuridine, and other 2'-halogeno-2'-deoxyribonucleosides", <i>J. Am. Chem. Soc.</i> , 1964, 86, 111-112		
AK	[REDACTED] Fox et al., "Nucleosides. LXVI. Synthesis and Properties of Poly(2'-deoxy-2'-fluoroinosinic Acid)", <i>Nucleic Acids Res.</i> , 1978, 5, 3343-3352		
AL	[REDACTED] Casas Heras, et al., "5-Cyano-3'-deoxyribofuranose", <i>J. Org. Chem.</i> , 1969, 33, 941-944		
EXAMINER	JD Schaefer	DATE CONSIDERED 8-8-03	



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<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date November 28, 2001	Group Not Yet Assigned
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
AM	Ikehara et al., "Polynucleotides. L. synthesis and properties of poly (2'-chloro-2'-deoxyxyranosyluridylate and poly (2'-chloro-2'-deoxyxyranosyluridine)", <i>Nucleic Acid Res.</i> , 1978, 4, 4249-4260		
AN	Ikehara et al., "Recognition by restriction endonuclease EcoR1 of 2'-deoxyxyranosyl nucleotides containing modified sugar moieties", <i>Nucleic Acid Res.</i> , 1984, 139, 447-450		
AO	Inoue et al., "Synthesis and polymerization of two terminal chloromethoxy(2'-O-methyl)ribonucleotides", <i>Nucleic Acid Res.</i> , 1987, 15, 6131-6148		
AP	Jacquier et al., "Synthesis and biological evaluation of dinucleotides containing a difluoromethylene unit", <i>Nucleosides &amp; Nucleotides</i> , 1989, 8, 1111-1114		
AQ	Kondo et al., "Synthesis of phosphate-methylated DNA fragments using 9-fluorenylmethoxycarbonyl as transient base protecting group", <i>J. Org. Chem.</i> , 1989, 54, 1657-1664		
AV	Jones et al., "4'-substituted nucleosides. 5'-hydroxymethyluronium nucleoside aldehydes", <i>J. Org. Chem.</i> , 1979, 44, 1309-1317		
AS	Marcus-Sekura, "Comparative inhibition of chloramphenicol acetyltransferase gene expression by analogs of guanosine analogues having galactosephosphate, trimethylphosphate and methylphioate linkages", <i>Nucleic Acids Res.</i> , 1987, 15, 5749-5763		
AT	Markiewicz et al., "Simultaneous Protection of 3'- and 5'-Hydroxyl Groups of Nucleosides", <i>Nucleic Acid Chemistry</i> , Part 3, pgs. 727-731, 1986, Eds., J. Wiley and Sons, New York, 1986		
AU	Miller et al., "A New Approach to Chemotherapy Based on Molecular Biology and Nucleic Acid Chemistry: Matigen (Masking Tape for Gene Expression) in Cancer Drug Design", 1987, 2, 117-128		
EXAMINER	<i>JD Schutte</i>	DATE CONSIDERED	<i>8-8-03</i>



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RECEIVED  
JUN 02 2003  
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List of Patent and Publications  
Cited by Applicant  
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U.S. Department of Commerce  
Patent and Trademark Office

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Filing Date  
**November 28, 2001**

Group  
**Not Yet Assigned**

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

A.V.	Caruthers, M., "Synthesis of Oligonucleotides and Oligonucleotide Analogues", in "Oligonucleotides: Antisense Inhibitors of Gene Expression", J.S. Cohen, Ed., CRC Press, Inc., 7-24, (1989)
A.W.	Perkins et al., "A Short Synthesis of 3'-Cyclic 3'-Deoxyadenosine", <i>Tetrahedron Letters</i> , 1988, 29, 2995-2996
A.X.	Ponnamperuma, "Modification of the 2 <sup>1</sup> Position of Purine Nucleosides: Synthesis of 2 <sup>1</sup> -a-Substituted-2'-Deoxyadenosine Analogs", <i>Tetrahedron Letters</i> , 1977, 15, 1291-1294
A.Y.	Shibahara et al., "Inhibition of Human Immunodeficiency Virus (HIV-1) Replication by Synthetic Oligo-RNA Derivatives", <i>Nucleic Acids Research</i> , 1987, 15, 233-235
A.Z.	Sproat et al., "New synthetic routes to protected purine 2'-O-alkyl and 2'-O-phosphoramidites using a novel alkylation procedure", <i>Nucleic Acids Research</i> , 1990, 18, 41-49
B.A.	Sproat et al., "Highly Efficient Chemical Synthesis of 2'-O-Alkylated and 2'-O-Phosphorylated Derivatives, Novel Probes That are Resistant to Degradation by RNA or DNA Specific Nucleases", <i>Nucleic Acids Research</i> , 1989, 17, 3373-3386
B.B.	Beaucage et al., "3'-H-Cbz-benzodithiophore-3'-one 3'-O-alkoxytrityl-2'-O-alkylating Reagent in the solid-phase synthesis of oligodeoxyribonucleoside phosphorothioates," <i>J. Am. Chem. Soc.</i> , 1990, 112, 1253-1254

EXAMINER

*JD Schut*

DATE CONSIDERED 8-8-03



<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>	
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>		Group <b>Not Yet Assigned</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>				
<b>PC</b>	Frederick, "Synthesis of 2'-Deoxyurimidine Nucleosides: Via Copper(II)-Catalysis", <i>Nucleosides &amp; Nucleotides</i> , 1989, 8, 1075-1076			
<b>PD</b>	(unpublished results) "Oligonucleotide Synthesis: Chemical Synthesis of carbonyl nucleotides," <i>Can. J. Chem.</i> , 1989, 831-839			
<b>BE</b>	Gait, M.J. (Ed.), "Oligonucleotide Synthesis: A Practical Approach", Chapter 13, Atkinson and Smith, Authors, IRL Press, 1984			
<b>BS</b>	Guisez et al., "Nucleoside conformation is Determined by the Flexibility of the Sugar Substituent", <i>Nucleic Acids Res.</i> , 1980, 8, 1421			
<b>BG</b>	Hertel et al., "Synthesis of 2'-deoxy-2,2-difluoro-D-ribose and 2'-deoxy-2,2-difluoro-D-ribofuranosyl nucleosides", <i>J. Org. Chem.</i> , 1988, 53, 2406-2409			
<b>BH</b>	Chen et al., "Studies on Fluorocyclation and Fluoralkylation. Part 33. Direct Trifluoromethylation of Aryl Halides with Fluorosulphonyldifluoromethyl Iodide in the Presence of Copper: an Electron Transfer Induced Process", <i>J. Chem. Soc., Perkin Transactions</i> , 1989, 1, 2385-2387			
<b>BI</b>	Robins, et al., "Synthesis of 2'-deoxyribucilidin, 2'-deoxyadenosine, and related 2'-deoxynucleosides via a novel direct stereospecific sodium salt glycosylation procedure," <i>J. Am. Chem. Soc.</i> , 1984, 106, 6379-6382			
<b>BJ</b>	Ikeda et al., "Improved Synthesis of 2'-fluoro-2'-deoxyadenosine and Synthesis and Carbon-13 NMR Spectrum of its 3',5'-cyclic Phosphate Derivative", <i>Nucleosides &amp; Nucleotides</i> , 1983, 2, 373-385			
<i>JDS</i>	<b>BK</b>	Agrawal, S. et al., "Oligodeoxynucleoside phosphoramidates and phosphorothioates as inhibitors of human immunodeficiency virus," <i>Proc. Natl. Acad Sci.</i> , 1988, 85, 7079-7083		
	<b>BL</b>	Augustyns, et al., "Influence of the incorporation of (s)-9-(3,4-dihydroxybutyl)adenine on the enzymatic stability and basepairing properties of oligodeoxynucleotides," <i>Nucleic Acids Res.</i> , 1991, 19, 2587-2593		
	<b>BM</b>	Beaton, et al., Chapter 5, "Synthesis of oligonucleotide phosphorodithioates," page 109, "Oligonucleotides and analogues: A Practical Approach", Ecliscom, E. (Ed.), The Practical Approach Series, IRL Press, NY, 1991, 109-135		
	<b>BN</b>	Kirshenbaum, et al., "The 3rd San Diego Conference on Nucleic Acids: New Frontiers, Poster abstract 28, November 14-16, 1990"		
<b>EXAMINER</b>	<i>JD Schudy</i>		<b>DATE CONSIDERED</b>	<i>8-1-03</i>



RECEIVED  
JUN 02 2003  
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**Form PTO-1449 Modified**

List of Patent and Publications  
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U.S. Department of Commerce  
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Filing Date  
**November 28, 2001**  
Group  
**Not Yet Assigned**

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

*	PO	Greenberg, M.E., in Current Protocols in Molecular Biology, (Ausubel, et al., Eds.), John Wiley and Sons, 1994
	RP	Kowalek, et al., "Synthesis and biophysical studies of 2'-deoxy-2'-fluoro phosphorothioate oligonucleotides, Conference on Nucleic Acid Therapeutics, Clearwater, FL, January 13, 1991
	BO	Kawasaki, et al., "Nonuniformly modified 2'-deoxy-2'-fluoro phosphorothioate oligonucleotides as nuclease-resistant antisense compounds with high affinity and specificity for RNA targets," <i>J. Med. Chem.</i> , 1993, 36, 831-841
	DR	Kreuzek, et al., "Association of 2'-5' oligoribonucleotides," <i>Nucleic Acids Res.</i> , 1992, 20, 1685-1690
	BS	Mattucci, M., "Hybridization properties of a deoxyoligonucleotide containing 2'-formacetal linkages," <i>Nucleosides &amp; Nucleotides</i> , 1991, 10, 231-234
	PT	Borthwick, et al., "Synthesis of chiral carboyclic nucleosides," <i>Europ. J. Org. Chem.</i> , 1991, 48, 571-623
	DC	Bonfield, et al., "Synthesis of deoxyribonucleotide phosphorotectonates," <i>J. Am. Chem. Soc.</i> , 1991, 113, 3972-3980
	BV	Cohen, Oligonucleotides: Antisense inhibitors of gene expression, CRC Press, Boca Raton, FL, 1989, 1-255
	BW	Dagle, et al., "Physical properties of oligonucleotides containing phosphoramidate-modified internucleoside linkages," <i>Nucleic Acids Research</i> , 1991, 19, 1805-1810
	BX	Dobart, et al., "Targeted degradation of mRNA in Xenopus oocytes and embryos directed by modified oligonucleotides: studies of An2 and cyclin in embryogenesis," <i>Nucleic Acids Res.</i> , 1990, 18, 4751-4757
	BY	Dagle, et al., "Pathways of degradation and mechanism of action of antisense oligonucleotides in xenopus laevis embryos," <i>Antisense Res. And Dev.</i> , 1991, 1, 11-20
	BZ	Dobart, et al., "Intermolecular radical C-C bond formation: synthesis of a novel dinucleoside-linker for non-anticomplementary antisense oligonucleotides," <i>J. Am. Chem. Soc.</i> , 1991, 113, 2645-2648

EXAMINER *TJ S-huey*

DATE CONSIDERED *8-8-03*

\* A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.



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<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
CA	Eden, P. S., et al., "Nucleoside and nucleotide analogs containing 2'-deoxyribose," <i>Biological Chem.</i> , 1991, 266(10), 6472-6479		
CD	Miller, D. S., et al., "DNA sequence study of 2'-deoxyribonucleotides in hybridization to mRNA and in cell free translation inhibition," <i>Nucleic Acids Res.</i> , 1987, 15, 10419-0436		
CC	Gait, et al., "Synthetic analogues of polynucleotides. Part XII. Synthesis of thymidine derivatives containing an Oxyacetamido or and oxiformylido group at the phosphodiester group," <i>J.C.S. Perkins I</i> , 1974, 1684-1686		
CD	Mertes, et al., "Deoxyribonucleotide analogs based on 5'-thymidylate," <i>Science</i> , 1990, 31, 2385-2388		
CE	Mertes, et al., "Synthesis of carbonate analogs of dinucleosides. 3'-thymidinyl 5'-thymidylate carbonate, 3'-thymidinyl 5'-(5-fluoro-2'-deoxyuridyl) carbonate, and (5-fluoro-2'-deoxyuridyl) 5'-thymidinyl carbonate." <i>J. Med. Chem.</i> , 1969, 12, 154-157		
CF	Miller, D. S., et al., "Effects of 2'-nucleotidyl methyl phosphonates (CP-61345) on mammalian cells in culture," <i>Biochemistry</i> , 1977, 16, 1988-1996		
CG	Miller, et al., Chapter 6, "Synthesis of oligo-2'-deoxyribonucleoside methylphosphonates," page 157, <i>Oligonucleotides and Analogs: A Practical Approach</i> , Eckstein, F. (Ed.), The Practical Approach Series, IRL Press, NY, 1991		
CH	Miller, et al., Chapter 30, "Oligonucleotide inhibitors of gene expression in living cells: new opportunities in drug design," <i>Annual Reports in Medicinal Chemistry</i> , 1988, 295-304		
CI	Monia, et al., "Evaluation of 2'-modified oligonucleotides containing 2'-deoxy-2'-azido antisense inhibitors of gene expression," <i>J. Bio. Chem.</i> , 1993, 268, 14514-14522		
CJ	Musicki, et al., "Synthesis of nucleoside sulfonates and sulfones," <i>J. Org. Chem.</i> , 1992, 57, 1267-1270		
<b>EXAMINER</b>	<i>J.D. Schuyler</i>		<b>DATE CONSIDERED</b> <i>8-8-03</i>



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<b>F rm PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
<b>CK</b>	Musicki, et al. "Synthesis of carbohydrate sulfonates and sulfonate esters." <i>J. Organic Chem.</i> , 1990, 55, 4231-4235		
<b>CL</b>	Cormier, et al. "Synthesis of hexanucleotide analogues containing dideoxyallyl internucleotide linkages," <i>Nucleic Acids Res.</i> , 1988, 16, 4583-4594		
<b>CM</b>	Borek, et al. "Stability of thymidine acid double-stranded nucleic acids." <i>J. Mol. Biol.</i> , 1974, 86, 843-853		
<b>CN</b>	Orgueil, et al. "Synthesis of a thymidine dinucleotide analogue containing a 2'-deoxy internucleotide silyl linkage," <i>Tet. Letts.</i> , 1985, 26, 4159-4162		
<b>CO</b>	Pernot, et al. "Sugar-modified oligonucleotides. I. Carbocyclic deoxyribonucleosides as potential antisense agents," <i>Biochem. And Biophys. Res. Comm.</i> , 1989, 165, 742-747		
<b>CP</b>	Petercon, et al. "Chemical synthesis of dimer ribonucleotides containing 2'-deoxy internucleotidic phosphoradithioate linkages," <i>Tet. Letts.</i> , 1990, 31, 911-914		
<b>CO</b>	Sagi, et al. "Biochemical properties of oligo(2'-carbocyclic-uridylates) and their complexes," <i>Nucleic Acids Res.</i> , 1990, 18, 2133-2140		
<b>CR</b>	Sanson-Belminas, et al. "Short modified antisense oligonucleotides directed against Ha-ras point mutation induced selective cleavage of the mRNA and inhibit T24 cells proliferation," <i>EMBO J.</i> , 1991, 10, 1111-1118		
<b>CS</b>	Schneider, et al. "Oligonucleotides containing 2'-exocyclic nucleoside analogues." <i>J. Am. Chem. Soc.</i> , 1990, 112, 453-455		
<b>CT</b>	Schneider, K., et al. "Building blocks for oligonucleotide analogs with dimethylene-sulfide, sulfoxide, and sulfone groups replacing phosphodiester linkages." <i>J. Org. Chem.</i> , 1990, 55, 335-338		
<b>EXAMINER</b>	<i>D Schmitz</i>		<b>DATE CONSIDERED</b> <i>8-8-03</i>



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JUN 02 2003  
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(Use several sheets if necessary)U.S. Department of Commerce  
Patent and Trademark Office**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

**CU** Secrist, et al., "Synthesis and biological activity of 4'-thionucleosides," *Tenth International Roundtable: Nucleosides, Nucleotides and Their Biological Evaluation*, September 16-20, 1992, Abstracts of Papers, Abstract 21

**CV** Stawinski, J., et al., *Tenth International Roundtable: Nucleosides, Nucleotides and Their Biological Evaluation*, September 16-20, 1992, Abstracts of Papers, Abstract 20

**CW** Dignam, et al., "Accurate transcription initiation by RNA polymerase II in a soluble extract from isolated mammalian nuclei," *Nature*, **1983**, *305*, 447-50, 489

**CW** Veeneman, G.H., et al., "Oligonucleotides: synthesis of novel methylhydroxylamine-linked nucleoside dimer and its incorporation into antisense sequences," *J. Am. Chem. Soc.*, **1992**, *114*, 4006-4007

**CZ** Veeneman, G.H., et al., "Synthesis of oligodeoxynucleotides containing thymidines linked via an inter-nucleoside (3'-5')-methylene bond," *Recueil des Travaux Chimiques Des Pays-Bas*, **1990**, *109*(7-8), 449-451

**DA** Berkman, R.C., et al., "Synthesis of 1-(2-deoxy-3-O-*β-D*-xylofuranosyl)-2-oxopyrazine 4-oxide," *J. Med. Chem.*, **1973**, *16*, 183-187

**DB** Inoue, et al., "Sequence-dependent hydrolysis of RNA using modified oligonucleotide spinics and DNA," *J. Biochemistry*, **1984**, *95*, 321-330

**DC** Inoue, et al., "Synthesis and properties of novel nucleic acid probes," *Nuc. Acids Res. Symposium Series*, **1985**, *16*, 165-168

**DD** Castle, et al., "Imidazo[4,5-D]pyridazines. I. Synthesis of 4,7-disubstituted derivatives," *J. Org. Chem.*, **1958**, *23*, 1534-1538

**DE** Kingston, R.E., et al., "Calcium Phosphate Transfection," *Current Protocols in Molecular Biology*, **1990**, Supplement, 24, 911-910

**DF** Jones, R.A., "Preparation of protected deoxyribonucleosides," from *Oligonucleotide Synthesis: A Practical Approach*, **1991**, Chapter 2, 23-37

EXAMINER

*JD Schult*

DATE CONSIDERED

*8-8-03*



Sheet 9 of 20

<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

DG	Robins et al., "Enzymatic Synthesis of 2'-Deoxyribonucleosides. Efficient Enzymatic Oxidation of Secondary Alcohols. Regiospecific and Stereoselective Conversion of Ribonucleosides to 2'-Deoxynucleosides", <i>J. Am. Chem. Soc.</i> , 1983, 105, 4059-4065
DH	Kazimierczuk et al., "Synthesis of 2'-Deoxytubercidin, 2'-Deoxyadenosine, Related Derivatives, and Their Antiviral Properties. Direct Stereoselective Sodium Salt Glycosylation Procedure", <i>J. Am. Chem. Soc.</i> , 1984, 106, 6379-6382
DL	Sambrook et al., "Molecular Cloning: A Laboratory Manual", Cold Spring Harbor Laboratory Press, 1989, Vol. 2, pgs. 11.31-11.52
DJ	Schwartz et al., "A microinjection method using the luciferase-encoding reporter gene for the assay of human immunodeficiency virus LTR promoter activity", <i>Gene</i> , 1990, 88, 197-205
	"Synthesis of 2'-O-Substituted Glucosamine", <i>Carbohydrate Research</i> , 1975, 44, 112-115
DP	Zorn et al., "Synthesis of Backbone-Modified DNA Analogs from Biotinylated Nucleotides", <i>J. Protein Chemistry</i> , 1987, 6, 131-145
	"Antisense Oligoribonucleotides: Inhibition of Gene Expression by Complementary RNA or DNA Sequences", <i>BioTechniques</i> , 1988, 6, 958-976
DN	Walker et al., "Role of RNase H in Hybrid-DNA-RNA Cleavage by Antisense Oligonucleotides", <i>Proc. Natl. Acad. Sci. USA</i> 1988, 85, 5011-5015
	Stein et al., "Physicochemical properties of a class of thio-oligonucleotides", <i>Nucleic Acids Research</i> , 1988, 16, 3209-3221
DP	Britter et al., "Synthesis of Oligodeoxynucleoside Phosphodiester via Thioamidites", <i>J. Am. Chem. Soc.</i> 1989, 111, 2321-2322
EXAMINER	<i>JD Schmit</i>
	DATE CONSIDERED 8-8-03



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<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
<b>DQ</b>	Miller et al., "Nonionic nucleic acid analogues. Synthesis and characterization of [REDACTED] 43		
<b>DR</b>	Jayaraman et al., "Selective Inhibition of Escherichia Coli Protein Synthesis and Growth by Nonionic Oligonucleotides Complementary to the 5' [REDACTED] A", <i>Proc. Natl. Acad. Sci. USA</i> 1981, 78(3), 1537-1541		
<b>DS</b>	Miller et al., "Biophysical and Biological Effects of Nonionic Nucleic Acid Methylphosphonates", <i>Biochemistry</i> 1981, 20, 1874-1880		
<b>DT</b>	Miller et al., "Synthesis and properties of adenine and thymine nucleoside allyl phosphotriesters, the neutral analogs of dinucleoside monophosphates", <i>J. Am. Chem. Soc.</i> 1971, 93, 6657-6664		
<b>DU</b>	Agris et al., "Inhibition of Vesicular Stomatitis Virus Protein Synthesis and Infection by Sequence-Specific Oligodeoxynucleotide Methylphosphonates", <i>Virology</i> 1986, 25, 6268-6275		
<b>DV</b>	Smith et al., "Antiviral effect of an oligonucleoside methylphosphonate complementary to the splice junction of herpes simplex virus type 1 immediate early pre-mRNAs 4 and 5", <i>Proc. Natl. Acad. Sci. USA</i> , 1986, 83, 2787-2791		
	[REDACTED] 1988, 242, 1028-1035		
<b>DX</b>	Tidd et al., "Evaluation of Nas-Onco gene Anti-Sense, Sense and Nonsense Sequence Methylphosphonate Oligonucleotide Analogs", <i>Anti-Cancer Drug Design</i> 1988, 3, 117-127		
<b>DY</b>	[REDACTED] Research 1988, 16(15), 7633-7645		
<b>DZ</b>	Matsukura, M. et al., "Phosphorothioate Analogs of Oligodeoxynucleotides: Inhibitors of Replication and Cytopathic Effects of Human Immunodeficiency Virus", <i>Proc. Natl. Acad. Sci. USA</i> , 1987, 84, 7706-7710		
<b>EXAMINER</b>	<i>JD Schuy</i>		
	<b>DATE CONSIDERED</b> 8-8-03		



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JUN 02 2003  
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<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant <b>Phillip Dan Cook, et al.</b>	
U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
		[REDACTED] D-ApA Analogues", <i>Nucleic Acids Research</i> , 1986, 14, 3487-3499	
EB	Cazenave, C., et al., "Enzymatic amplification of template inhibition of rabbit $\beta$ -globin mRNA mediated by anti-messenger oligodeoxynucleotides covalently linked to intercalating agents", <i>Nucleic Acids Research</i> , 1987, 15, 4717-4736	[REDACTED]	
EC	Constant et al., "Heterodimeric Molecules Including Nucleic Acid Bases and 9-Aminoacridine 3997-4003	[REDACTED]	
ED	[REDACTED] Y... "Synthesis of 1,4-Diarylated Polyimides and Their Cross-Linking Properties", <i>Biochemistry</i> 1988, 27, 3204-3210	[REDACTED]	
EE	Meyer et al., "Efficient Specific Cross-Linking and Cleavage of DNA by Complementary Complementary Oligodeoxynucleotides", <i>J. Am. Chem. Soc.</i> 1989, 111, 8517-8519	[REDACTED]	
EF	Le Doan et al., "Sequence-Targeted Chemical Modifications of Nucleic Acids by Complementary Oligodeoxynucleotide-Covalently Linked to Porphyrins", 8643-8659	[REDACTED]	
EG	Sigman, "Nuclease Activity of 1,5'-Diphenanthroline-Copper(II) Acetate", <i>Chem. Res.</i> 1986, 19, 180-186	[REDACTED]	
EH	Drever et al., "Sequence-specific cleavage of single stranded DNA: Oligodeoxynucleotide-EDTA-Fe(II)", <i>Proc. Natl. Acad. Sci.</i> 1987, 84, 1083-1087	[REDACTED]	
EI	Biggadike et al., "Short convergent route to homochiral carbocyclic 2'-deoxyribonucleosides and carbocyclic ribonucleosides", <i>J. Org. Chem.</i> 1987, 52, 1083-1084	[REDACTED]	
EL	Dollinger et al., "Synthesis of 2'-Deoxy-2'-O-Substituted 2'-Deoxyribose and 2'-Deoxyribofuranose Glycosides", <i>J. Org. Chem.</i> 1987, 52, 5064-5066	[REDACTED]	
EK	Rewankar et al., "Synthesis and Antiviral Activity of Carbocyclic Nucleosides and Carbocyclic Nucleotides", <i>J. Med. Chem.</i> 1984, 24, 1389-1396	[REDACTED]	
<b>EXAMINER</b>	<i>JD Schmitz</i>	<b>DATE CONSIDERED</b>	<i>8-8-03</i>



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<b>Form PTO-1449 M modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
<b>EM</b>	Kielanowska, M. et al., "The Influence of Cytidine-5'-Alkylation on the Properties of Poly(Cytidylic Acid)", <i>FEBS Letts.</i> , 1972, 28, 25-28		
<b>EM</b>	Kielanowska, M. et al., "Preparation and properties of 2'-O-Ethylcytidylic Acid", <i>Acta Acids Res.</i> , 1976, 3, 817-824		
<b>EN</b>	Kusmirek, J.T. et al., "Alkylation of Cytidine-5'-Phosphate: Mechanisms of Alkylation and Influence of O' Alkylation on Susceptibility of Pyrimidine Nucleosides to Some Nucleolytic Enzymes, and Synthesis of 2'-O-Alkyl Polynucleotides", <i>Acta Biochimica Polonica</i> , 1973, 20, 365-381		
<b>ECO</b>	Eck, L.M. et al., "Mixed Alkylation: Methylation and Ethylation of Nucleic Acids by Diazooethane in Aqueous 1,2-Dimethoxyethane", <i>J. Org. Chem.</i> , 1974, 39, 3674-3676		
<b>EP</b>	Ransford, G.H. et al., "2'-O-Ethyl Purine Nucleosides (1)", <i>J. Carbohydrates, Sugars, Nucleotides</i> , 1974, 1, 275-278		
<b>EO</b>	Rottman, F. et al., "Influence of 2'-O-Alkylation on the Structure of Single-Stranded Polynucleotides and the Stability of 2'-O-Alkylated Polynucleotide Complexes", <i>Biochemistry</i> , 1974, 13, 2762-2771		
<b>ER</b>	Singer, B. et al., "Alkylation of Ribose in RNA Reacted with Ethynitroso Compounds", <i>Biochem.</i> , 1976, 15, 5032-5057		
<b>ES</b>	Mazawa, J. et al., "A Novel Procedure for the Synthesis of 2'-O-Alkyl Nucleoside", <i>Biochemistry</i> , 1972, 11, 4931-4937		
<b>EP</b>	Divakarla, S. et al., "Synthesis of 2'-O-Ethyl Nucleosides", <i>Europ. Pat. Appln.</i> , 1984, 1625		
<b>EU</b>	Kawasaki, et al., "Synthesis and biophysical studies of 2'-dRIBO 2'-E modified oligonucleotides", <i>Conference on Nucleic Acid Therapeutics</i> , January 1991, Washington, D.C. (U.S.), <i>Terapeutic Lett.</i> , 1987, 26(1), 3539-3545		
<b>EW</b>	Averawat, et al., <i>Terapeutic Lett.</i> , 1987, 28(3), 2510-2512		
<b>EXAMINER</b>	<i>JD Schut</i>	<b>DATE CONSIDERED</b>	<i>8-8-03</i>



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<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
<b>EY</b>	[REDACTED] requires a nuclear factor distinct from c-fos or c-jun", <i>Proc. Natl. Acad. Sci USA</i> , 1990, 87, 3866-3870		
<b>EY</b>	[REDACTED] the dynamics of double-helix formation with CCGG, CCGGp, CCGGAP, ACCGp, CCGGUp, and ACCGGUp", <i>Biochemistry</i> , 1983, 22, 256-263		
<b>EY</b>	[REDACTED] Absorbance melting curves of RNA". <i>Methods in Enzymology</i> , 1989, 180, 304-311		
<b>FA</b>	Grahm, et al., "Tritium labeling of antisense oligonucleotides by exchange with tritiated water," <i>Nuc. Acids Res.</i> , 1993, 16, 3737-3742		
<b>FB</b>	Ikehara, et al., "Studies of nucleosides and Nucleotides-LXXXII. Cyclonucleosides. (39). Synthesis and properties of 2'-halogen-2'-deoxyadenosines," <i>Chem. Pharm. Bull.</i> , 1978, 26, 2449-2453		
<b>FC</b>	Imazawa et al., "Nucleosides and nucleotides. XII. <sup>1)</sup> Synthesis and properties of 2'-deoxy-2'-mercaptouridine and its derivatives", <i>Chem. Pharm. Bull.</i> , 1975, 23, 604-610		
<b>FD</b>	Jones, et al., "Transient protection/efficient one-flask synthesis of protected deoxynucleosides," <i>J. Am. Chem. Soc.</i> , 1982, 104, 1316-1319		
<b>FE</b>	Bhat et al., "A Simple and Convenient Method for the Selective N-Acylations of Cytosine Nucleosides", <i>Nucleosides &amp; Nucleotides</i> , 1989, 8, 179-183		
<b>FF</b>	Gaffney et al., "A New Strategy for the Protection of 2'-Oxyguanosine During Oligonucleotide Synthesis", <i>Tetrahedron Letters</i> , 1982, 23, 2257-2260		
<b>FG</b>	Hanske et al., "2' and 3'-ketonucleosides and their ARABINO and XYLO reductin products", <i>Tetrahedron</i> , 1984, 40, 125-135		
<b>FH</b>	Greenberg in <i>Current Protocols in Molecular Biology</i> , Ausubel, et al., Eds., John Wiley & Sons, New York		
<b>FI</b>	Ikehara et al., "Studies of Nucleosides and Nucleotides-LXXXIII Purine Cyclonucleosides--34 A New Method for the Synthesis of 2'-substituted 2'-deoxyadenosines", <i>Tetrahedron</i> , 1978, 34, 1133-1138		
<b>EXAMINER</b>	<i>JD Schmitz</i>	<b>DATE CONSIDERED</b> 8-8-03	



RECEIVED  
JUN 02 2003  
TECH CENTER 1600/2900

<b>Form PTO-1449 Modified</b>		
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		
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<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>		
<b>FJ</b>	Ikehara et al., "Studies of Nucleosides and Nucleotides-LXXXVII. <sup>1)</sup> , Purine cyclonucleosides. XLII. synthesis of 2'deoxy-2'fluorofunaosine", <i>Chem. and Pharm. Bull.</i> , <b>1981</b> , 29, 1034-1038	
<b>FK</b>	Rao et al., "A Novel One-step Procedure for the Conversion of Thymidine into 2,3'-Dihydrothymidine", <i>J. Chem. Soc. Chem. Commun.</i> , <b>1989</b> , 997-998	
<b>FL</b>	Reese et al., "4-(1,2,4-Triazol-1-yl)- and 4-(3-Nitro-1,2,4,-triazol-1-yl)-[ $\beta$ -D-2,3,5-tri-O-acetyl-arabinofuranosyl]pyrimidin-2(1H)-ones. Valuable Intermediates in the Synthesis of Derivatives of 1-( $\beta$ -D-Arabinofuranosyl)cytosine (Ara-C)", <i>J. Chem. Soc. Perkin Trans. I</i> , <b>1982</b> , 1171-1176	
<b>FM</b>	Robins et al., "Nucleic acid related compounds. 41. Restricted furanose conformations of 3',5'-O-(1,1,3,3-tetrasopropylsiloxy-1,3-diyl)nucleosides provide a convenient evaluation of anomeric configuration.", <i>Can. J. Chem.</i> , <b>1983</b> , 61, 1911-1920	
<b>FN</b>	Seela et al., "Palindromic Octa- and Dodeca-nucleotides Containing 2'-Deoxytubercidin: Synthesis, Hairpin Formation, and Recognition by the Endodeoxyribonuclease", <i>Biochemistry</i> , <b>1987</b> , 26, 2233-2238	
<b>FO</b>	Markiewicz et al., "Simultaneous Protection of 3'- and 5'-Hydroxyl Groups of Nucleosides", <i>Nucleic Acid Chemistry</i> , <b>1986</b> , 229-231	
<b>FP</b>	Stufkens et al., "Dynamic Jahn-Teller Effect in the Excited States of $\text{SeCl}_6^{2-}$ , $\text{SeBr}_6^{2-}$ , $\text{TeCl}_6^{2-}$ and $\text{TeBr}_6^{2-}$ ", <i>Recueil des Travaux Chimiques des Pays-Bas</i> <b>1970</b> , 89, 1185-1201	
<b>FQ</b>	Zon, "Oligonucleotide Analogues as Potential Chemotherapy Agents", <i>Pharm. Res.</i> , <b>1988</b> , 5(9), 539-549	
<b>FR</b>	Steiner et al., "Oligodeoxynucleotides as Inhibitors of Gene Expression: A Review", <i>Cancer Research</i> , <b>1988</b> , 48, 2659-2668	
<b>FS</b>	Walder et al., "Antisense DNA and RNA: Progress and Prospects", <i>Genes &amp; Development</i> , <b>1988</b> , 2, 502-504	
<b>FT</b>	Marcus-Sekura, "Techniques for Using Antisense Oligodeoxyribonucleotides to Study Gene Expression", <i>Anal. Biochemistry</i> , <b>1988</b> , 172, 289-295	
<b>EXAMINER</b> <i>JD Schub</i>	<b>DATE CONSIDERED</b> <i>8-80</i>	



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JUN 02 2003  
TECH CENTER 1600/2900

<b>F rm PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

<b>FU</b>	Chladek, et al., "Facile synthesis of 2'-anubi-2' deoxyadenosine," <i>J. Carbohydrate Nucleosides and Nucleotides</i> , <b>1980</b> , 7, 63-75
<b>EV</b>	Agrawal et al., "Synthesis and Enzymatic Properties of Deoxyribooligonucleotides Containing Methyl and Phenylphosphonate Linkages", <i>Nucleic Acid Research</i> <b>1979</b> , 6, 3009-3022
<b>FW</b>	Agrawal et al., "Oligodeoxynucleoside Phosphoramidates and Phosphorothioates as Inhibitors of Human Immunodeficiency Virus", <i>Proc. Natl. Acad. Sci. USA</i> , <b>1988</b> , 85, 7079-7083
<b>FX</b>	Jäger, A. et al., "Oligonucleotide N-alkylphosphonates: Synthesis and binding to polynucleotides", <i>Biochemistry</i> <b>1988</b> , 27, 7237-7246
<b>FY</b>	Knorre et al., "Complementary-Addresser (Sequence-Specific) Modification of Nucleic Acids", <i>Progress in Nucleic Acid Research and Molecular Biology</i> <b>1985</b> , 32, 291-321
<b>FZ</b>	Weissberger, A., (Ed.), "Imidazole and its Derivatives" in "The Chemistry of Heterocyclic Compounds", Interscience Publishers, Inc., New York, <b>1953</b> , 447
<b>GA</b>	Uhlmann et al., "Antisense Oligonucleotides. A New Therapeutic Principle", <i>Chemical Reviews</i> , <b>1990</b> , 90(4), 534-584
<b>GB</b>	Divakar et al., "Approaches to the Synthesis of 2'-Thio Analogues of Pyrimidine Ribosides", <i>J. Chem. Soc., Perkins Trans., I</i> , <b>1970</b> , 969-974
<b>GC</b>	Divakar et al., "Reaction Between 2,2'-Anhydro-1-β-D-arrabinofuranosyluracil and Thiolate Ions", <i>J. Chem. Soc., Perkins Trans. I</i> , <b>1982</b> , 1625-1628
<b>GD</b>	Ryan et al., "Synthesis of 2-Thio-D-ribose and 2'-Thioadenosine Derivatives", <i>J. Org. Chem.</i> , <b>1971</b> , 36(18), 2646-2657
<b>GE</b>	Irabarren, A.M. et al., <i>Proc. Natl. Acad. Sci. USA</i> , <b>1990</b> , 87, 7747-7751
<b>GF</b>	Cook, P.D., "Medicinal chemistry of antisense oligonucleotides - future opportunities", <i>Anti-Cancer Drug Design</i> , <b>1991</b> , 6, 585-607
<b>GG</b>	Dunlap, B.E. et al., <i>Biochemistry</i> , <b>1971</b> , 10, 2581-2587

EXAMINER *JD Schmitz*

DATE CONSIDERED *8-8-03*



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<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>

RECEIVED  
JUN 02 2003  
TECH CENTER 1600/2000

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

GH	Iyer et al., "3H-1,2-Benzodithiole-3-one 1,1-Dioxide as an Improved Sulfurizing Reagent in the Solid-Phase Synthesis of Oligodeoxyribonucleoside Phosphorothioates", <i>J. Am. Chem. Soc.</i> , <b>1990</b> , <i>112</i> , 1253-1254
GI	Butke et al., "Facile Synthesis of 2'-Amino-2'Deoxyadenosine", <i>J. Carbohydrates, Nucleosides &amp; Nucleotides</i> , <b>1980</b> , <i>7</i> , 63-75
GJ	Hobbs et al., "Polynucleotides Containing 2'-Chloro-2'-Deoxyribose", <i>Biochemistry</i> , <b>1972</b> , <i>11</i> , 4336-4344
GK	Coddington et al., "Nucleosides. XVIII. Synthesis of 2'-Fluoro-2'-deoxythymidine, 2'-Fluorodeoxyuridine, and Other 2'-Halogeno-2'-Deoxy Nucleosides <sup>1,2</sup> ", <i>J. Org. Chem.</i> , <b>1964</b> , <i>29</i> , 558-564
GL	Graham et al., "Tritium Labeling of Antisense Oligonucleotides by Exchange with Tritiated Water", <i>Nucleic Acids Res.</i> , <b>1983</b> , <i>11</i> , 3737-3743
GM	Calvo-Mateo et al., "3'-C-Cyano-3'Deoxythymidine", <i>Tetra. Lett.</i> , <b>1988</b> , <i>29</i> , 941-944
GN	Uesugi et al., "Purine 8-cyclonucleosides", <i>Accounts Chemical Research</i> , <b>1969</b> , <i>2</i> , 47-53
GO	Jones, <i>Oligonucleotide synthesis -- A Practical Approach</i> , M.J. Gait, Ed., IRL Press, Washington, D.C. 1985
GP	Ti et al., "Transient protection: Efficient one-flask synthesis of protected deoxynucleosides", <i>J. Am. Chem. Soc.</i> , <b>1982</b> , <i>104</i> , 1316-1319
GQ	Damle et al., "Solution and solid phase chemical synthesis of arabinonucleotides", <i>Carbo. Chem.</i> , <b>1989</b> , 831-839
GR	Agrawal, S. et al., "Phosphoramidate, Phosphorothioate, and Methylphosphonate Analogs of Oligodeoxynucleotide: Inhibitors of Replication of Human Immunodeficiency Virus; Nucleosides & Nucleotides", <b>8(5&amp;6)</b> , 809-823 1998
GS	Sproat, B.S. et al., "Highly efficient chemical synthesis of 2'-O-methyloligonucleotides and tetrabiotinylated derivatives; novel properties that are resistant to degradation by RNA or DNA specific nucleases", <i>Nucl. Acids Res.</i> , <b>1989</b> , <i>17</i> , 3373-3386

EXAMINER	<i>J.D. Schuyler</i>	DATE CONSIDERED	<i>8-8-03</i>
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<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4943</b>	Serial No. <b>09/996,263</b>
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U.S. Department of Commerce Patent and Trademark Office		Filing Date <b>November 28, 2001</b>	Group <b>Not Yet Assigned</b>

RECEIVED  
TECH CENTER 1600/2000  
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**U. S. PATENT DOCUMENTS**

Examiner Initial	Document No.	Date	Name	Class	Subclass
GT	4,381,344	04/26/83	Rideout et al.	435	87
GU	5,013,830	05/07/91	Ohtsuka et al.	536	
GW	5,223,618	06/29/93	Cook et al.	544	276
GW	5,378,825	01/03/95	Cook et al.		25.3
GX	5,134,045	08/11/92	Cook et al.	536	27
GY	4,511,716	04/16/85	Miller et al.	536	27
GZ	5,134,066	07/28/92	Rogers et al.	435	91
HA	5,466,786	11/14/95	Patterson et al.	536	26.26
HB	5,955,589	02/21/99	Cook, et al.	536	23.1
HC	5,256,775	10/27/93	Froehler	536	25.6
HD	5,149,797	08/22/92	Pederson, et al.	536	27
HE	4,908,307	03/13/90	Krolland, et al.	435	6
HF	5,034,506	07/23/91	Summerlin, et al.	528	391
HG	5,386,738	01/31/95	Sanghvi, et al.	536	25.3
HH	3,587,808	08/29/72	Merigan, et al.	195	28 N
HI	4,876,335	10/24/89	Yamane et al.	536	27
HD	4,965,350	10/23/90	Inoue et al.	536	28
HK	4,760,017	07/26/88	McCormick	435	6
HL	4,689,320	08/25/87	Kaji	514	44
HM	5,212,295	05/18/93	Cook	536	26.7

EXAMINER *JD Schmitz*

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**List of Patent and Publications  
Cited by Applicant  
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**U.S. Department of Commerce  
Patent and Trademark Office**

Docket No.  
**ISIS-4943**

Serial No.  
09/996253

**Applicant**  
**Phillip Dan Cook, et al.**

**Filing Date**  
**November 28, 2001**

Group  
Not Yet Assigned

## **U. S. PATENT DOCUMENTS**

**EXAMINER** ✓) Schmitz

**DATE CONSIDERED**

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List of Patent and Publications  
Cited by Applicant  
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U.S. Department of Commerce  
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**09/996,263**

Applicant  
**Phillip Dan Cook, et al.**

Filing Date  
**November 28, 2001**

Group  
**Not Yet Assigned**

JUN 02 2003

RECEIVED  
TECH CENTER 1600  
JUN 02 2003

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES	Translation NO
	HV	0 269 574 A2	11/23/87	EP		
	HW	0 339 842 A2	11/02/89	EP		
	KY	WO 91/06556	05/16/91	PCT		
	HY	WO 91/15499	10/17/91	PCT		X
	HZ	WO 92/02258	02/20/92	PCT		
	IA	WO 91/06671	07/25/91	PCT		
	IB	WO 92/03563	03/05/92	PCT		
	IC	WO 92/22651	12/23/92	PCT		
	ID	WO 90/15814	12/23/90	PCT		
	IE	WO 92/07065	04/30/92	PCT		
	IF	2,017,369	11/24/92	Canada		
	IG	DE 41 10085 A1	10/27/92	Germany		
	IH	89303700.2	04/13/89	EPO		
	II	87307595.6	08/27/87	EPO		
	IJ	3-24079	1991	Japan		
	IK	39-1462	09/06/90	Germany		
	IL	WO 91/12323	08/22/91	PCT		
		WO 94/02498	02/03/94	PCT		
	IN	WO 93/07883	04/29/93	PCT		
	IO	WO 94/00467	01/06/94	PCT		
	IP	WO 94/02501	02/03/94	PCT		

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